CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 :2005

T-2377

Job No.: CTCE/BBMP/W.No.04/YGM/CSR-07/106/CEMENT/2016-17 Date: 01.08.2016

TEST REPORT ON CEMENT

* CUSTOMER	:	**Asst. Executive Engineer**, Yelahanka New Town Sub Division, BBMP, Bangalore.
*AGENCY	:	**Mr. Y.G. Manjunath,** No.476, 3rd Cross, Attur, Yelahanka, Bangalore – 64.
*NAME OF THE WORK	:	Improvements of roads and drains at Mathru Layout and Someshwaranagara in Ward No.04, Yelahanka New Town Sub Division, BBMP, Bangalore.
*REFERENCE	:	BBMP/AEE/YNSD/13/2016-17 Dated: 30.07.2016
SAMPLE ID	:	Cement
SAMPLE RECEIVED ON	:	30.07.2016
PERIOD OF TESTING	:	30.07.2016 to 01.08.2016

The results of the tests conducted on the cement sample are as follows:

Sl. No	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 8112-2013
1	Standard Consistency	IS-4031 (Part -4) 1988(RA-2009)	29.50 %	-
2	a) Initial Setting Time	IS-4031 (Part -5) 1988(RA-2009)	140 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part -5) 1988(RA-2009)	485 Minutes	Not More than 600 Minutes
3	Soundness by Le Chartlier Method	IS-4031 (Part-3) 1988(RA-2009)	1 mm	Not more than 10mm

*Information is furnished by the Customer/Representative.

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****

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Job No.: CTCE/BBMP/W.No.04/YGM/CSR-07/106/SAND-Gradation/2016-17 : 01.08.2016

TEST REPORT ON DETERMINATION GRADATION OF FINE AGGREGATES

* Customer	: **Asst. Executive Engineer,** Yelahanka New Town Sub Division, BBMP, Bangalore.
* Agency	: **Mr. Y.G. Manjunath,** No.476, 3rd Cross, Attur, Yelahanka, Bangalore – 64.
* Name of Work	: Improvements of roads and drains at Mathru Layout and Someshwaranagara in Ward No.04, Yelahanka New Town Sub Division, BBMP, Bangalore.
Reference	: BBMP/AEE/YNSD/13/2016-17 Dated: 30.07.2016
Technical Reference	: IS : 2386 Part 1 - 1963 RA-2007
Sample ID	: Fine Aggregates
Sample Received on	: 30.07.2016
Date of Testing	: 01.08.2016

Total Wt. of Aggregates in gms 1000

Is Sieve Size in mm	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA- 2007)			
		Zone-I	Zone-II	Zone-III	Zone-IV
10	100	100	100	100	100
4.75	96.10	90-100	90-100	90-100	95-100
2.36	80.90	60-95	75-100	85-100	95-100
1.18	59.10	30-70	55-90	75-100	90-100
600 Micron	29.60	15-34	35-59	60-79	80-100
300 Micron	16.60	5-20	8-30	12-40	15-50
150 Micron	6.80	0-10	0-10	0-10	0-15

* Information is furnished by the Customer/Representative

Remarks : This sample is under Zone-I specific limits.

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Job No.: CTCE/BBMP/W.No.04/YGM/CSR-07/106/AGG/GR/2016-17 : 01.08.2016

TEST REPORT ON DETERMINATION GRADATION OF COARSE AGGREGATES

* Customer	: **Asst. Executive Engineer,** Yelahanka New Town Sub Division, BBMP, Bangalore.
* Agency	: **Mr. Y.G. Manjunath,** No.476, 3rd Cross, Attur, Yelahanka, Bangalore – 64.
* Name of Work	: Improvements of roads and drains at Mathru Layout and Someshwaranagara in Ward No.04, Yelahanka New Town Sub Division, BBMP, Bangalore.
Reference	: BBMP/AEE/YNSD/13/2016-17 Dated: 30.07.2016
Technical Reference	: IS : 2386 Part 1 -1963 RA-2007
Sample ID	: Coarse Aggregates (40mm)
Sample Received on	: 30.07.2016
Date of Testing	: 01.08.2016

Total Wt. of Aggregates in gms= **7000**

Is Sieve Size in mm	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA- 2007)	
		Graded	Single Sized
80	100	100	-
63	100	-	100
40	97.86	95-100	85-100
20	40.86	30-70	0-20
10	14.43	10-35	0-5
4.75	3.71	0-5	-

* Information is furnished by the Customer/Representative

Remarks : This sample is under Graded specific limits.

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Job No.: CTCE/BBMP/W.No.04/YGM/STEEL/2016-17 02.08.2016

TEST REPORT ON REINFORCEMENT STEEL

Customer	:	**Asst. Executive Engineer**, Yelahanka New Town Sub Division, BBMP, Bangalore.
Agency	:	**Mr. Y.G. Manjunath,** No.476, 3rd Cross, Attur, Yelahanka, Bangalore – 64.
Name of the Work	:	Improvements of roads and drains at Mathru Layout and Someshwaranagara in Ward No.04, Yelahanka New Town Sub Division, BBMP, Bangalore.
Reference	:	BBMP/AEE/YNSD/13/2016-17 Dated: 30.07.2016
Date of Test	:	02.08.2016
Technical Reference	:	IS: 1786-2008

Sl. No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm²	Tensile strength (Ultimate stress) N/mm²	Elongation percent gauge length		
1	10	0.62	513	556	13.20	O.K	O.K

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NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

Job No.: CTCE/BBMP/W.No.04/YGM/STEEL/2016-17 02.08.2016

TEST REPORT ON REINFORCEMENT STEEL

Customer	:	**Asst. Executive Engineer**, Yelahanka New Town Sub Division, BBMP, Bangalore.
Agency	:	**Mr. Y.G. Manjunath,** No.476, 3rd Cross, Attur, Yelahanka, Bangalore – 64.
Name of the Work	:	Improvements of roads and drains at Mathru Layout and Someshwaranagara in Ward No.04, Yelahanka New Town Sub Division, BBMP, Bangalore.
Reference	:	BBMP/AEE/YNSD/13/2016-17 Dated: 30.07.2016
Date of Test	:	02.08.2016
Technical Reference	:	IS: 1786-2008

Sl. No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm^2	Tensile strength (Ultimate stress) N/mm^2	Elongation percent gauge length		
1	12	0.89	515	558	13.35	O.K	O.K

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T-2377

Job No.: CTCE/BBMP/W.No.04/YGM/CSR-07/106/CUBE/2016-17 01.09.2016

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer : **Asst. Executive Engineer,** Yelahanka New Town Sub Division, BBMP, Bangalore.

* Agency : **Mr. Y.G. Manjunath,**
No.476, 3rd Cross, Attur, Yelahanka, Bangalore – 64.

* Name of the work : Improvements of roads and drains at Mathru Layout and Someshwaranagara in Ward No.04, Yelahanka New Town Sub Division, BBMP, Bangalore.

* Reference : BBMP/AEE/YNSD/13/2016-17 Dated: 30.07.2016

* Sample ID : RCC Drain Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

* Grade of Concrete : M_{20}

Compressive Strength as on : 28th day

Sample Received on : 01.09.2016

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	04.08.2016	01.09.2016	8.110	489.3	21.75
2	04.08.2016	01.09.2016	8.260	512.3	22.77
3	04.08.2016	01.09.2016	8.330	514.2	22.85

* Information is furnished by the Customer/Representative

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AE W4 1/9

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Building & Highway Material Testing Laboratory

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T-2377

Job No.: CTCE/BBMP/W.No.04/YGM/CSR-07/106/CUBE/2016-17 03.09.2016

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer : **Asst. Executive Engineer,** Yelahanka New Town Sub Division, BBMP, Bangalore.

* Agency : **Mr. Y.G. Manjunath,**
No.476, 3rd Cross, Attur, Yelahanka, Bangalore – 64.

* Name of the work : Improvements of roads and drains at Mathru Layout and Someshwaranagara in Ward No.04, Yelahanka New Town Sub Division, BBMP, Bangalore.

* Reference : BBMP/AEE/YNSD/13/2016-17 Dated: 30.07.2016

* Sample ID : RCC Drain Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

* Grade of Concrete : M_{20}

Compressive Strength as on : 28th day

Sample Received on : 03.09.2016

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	06.08.2016	03.09.2016	8.193	480.5	21.36
2	06.08.2016	03.09.2016	8.266	502.2	22.32
3	06.08.2016	03.09.2016	8.335	510.2	22.68

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Job No.: CTCE/BBMP/W.No.04/YGM/CSR-07/106/CUBE/2016-17 07.09.2016

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer	: **Asst. Executive Engineer,** Yelahanka New Town Sub Division, BBMP, Bangalore.
* Agency	: **Mr. Y.G. Manjunath,** No.476, 3rd Cross, Attur, Yelahanka, Bangalore – 64.
* Name of the work	: Improvements of roads and drains at Mathru Layout and Someshwaranagara in Ward No.04, Yelahanka New Town Sub Division, BBMP, Bangalore.
* Reference	: BBMP/AEE/YNSD/13/2016-17 Dated: 30.07.2016
* Sample ID	: Culvert Deck Slab Concrete
Size of cubes	: 150mmx150mmx150mm
Cross Sectional Area	: 22500 mm^2
Technical Reference	: IS: 516-1959 (Reaffirmed 2008)
* Grade of Concrete	: M_{20}
Compressive Strength as on	: 28th day
Sample Received on	: 07.09.2016

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	10.08.2016	07.09.2016	8.115	489.3	21.75
2	10.08.2016	07.09.2016	8.290	510.2	22.68
3	10.08.2016	07.09.2016	8.315	514.3	22.86

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Job No.: CTCE/BBMP/W.No.04/YGM/CSR-07/106/CUBE/2016-17 13.09.2016

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer	: **Asst. Executive Engineer,** Yelahanka New Town Sub Division, BBMP, Bangalore.
* Agency	: **Mr. Y.G. Manjunath,** No.476, 3rd Cross, Attur, Yelahanka, Bangalore – 64.
* Name of the work	: Improvements of roads and drains at Mathru Layout and Someshwaranagara in Ward No.04, Yelahanka New Town Sub Division, BBMP, Bangalore.
* Reference	: BBMP/AEE/YNSD/13/2016-17 Dated: 30.07.2016
* Sample ID	: Road Concrete
Size of cubes	: 150mmx150mmx150mm
Cross Sectional Area	: 22500 mm^2
Technical Reference	: IS: 516-1959 (Reaffirmed 2008)
* Grade of Concrete	: M_{20}
Compressive Strength as on	: 28th day
Sample Received on	: 13.09.2016

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	16.08.2016	13.09.2016	8.288	474.9	21.11
2	16.08.2016	13.09.2016	8.392	499.3	22.19
3	16.08.2016	13.09.2016	8.489	510.2	22.68

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Job No: CTCE/ BBMP/W.No.04/YGM/CSR-07/106/Pre Cast Slab/2016-17 16.08.2016

TEST REPORT ON CONCRETE CORE (PRE CAST SLAB)

* Name of Customer	:	**Asst. Executive Engineer,** Yelahanka New Town Sub Division, BBMP, Bangalore.
* Name of Agency	:	**Mr. Y.G. Manjunath,** No.476, 3rd Cross, Attur, Yelahanka, Bangalore – 64.
* Name of work	:	Improvements of roads and drains at Mathru Layout and Someshwaranagara in Ward No.04, Yelahanka New Town Sub Division, BBMP, Bangalore.
Reference	:	BBMP/AEE/YNSD/13/2016-17 Dated: 30.07.2016
Techinical Reference	:	IS:516-1959 (Reaffirmed 2008), SP-24:1983.
Sample ID	:	Pre cast slab
Sample Received on	:	11.08.2016
Date of Testing	:	16.08.2016

Sl. No.	Dia of Core D (mm)	Height of Core H (mm)	Core Wt (Kg)	Density of Core (kg / m^3)	H / D	Correction factor (Based on H/D)	Failure Load (kN)	Core Strength (N/mm^2)	Correction Factor for the Dia. (Strength of the Core x 1.08)	Corrected Cylinder Compressive Strength (N/mm^2)	Equivalent Cube Compressive Strength (N/mm^2)
1	50.00	80.00	0.393	2501.92	1.60	0.960	32.30	16.45	17.77	17.06	21.32
2	50.00	82.00	0.403	2503.00	1.64	0.965	33.00	16.81	18.15	17.52	21.90
3	50.00	83.00	0.410	2515.80	1.66	0.970	33.85	17.24	18.62	18.06	22.58

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